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ABSTRACT

Roosevelt University was founded in Chicago in 1945. Since 1947 the university has occupied the Auditorium Building, which was completed in 1889 and is included in the Historic American Buildings Survey and the National Register of Historic Places. The building has been extensively remodeled and restored and an adjacent dormitory and student union constructed. In undertaking and completing this program of physical plant expansion and improvement, the university has wrestled with and solved two difficult planning problems. The first of these problems is how a university in a landlocked urban center can create the new facilities needed for an expanding enrollment and an evolving academic program. The second major problem of significance is how to preserve an architectural landmark that several times in the 1930s and 1940s narrowly escaped demolition. This was made possible by its conversion into an academic building serving a contemporary purpose. (Author/MLF)

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PHYSICAL PLANNING FOR THE URBAN CAMPUS: ROOSEVELT UNIVERSITY

Presentation to the 7th Annual Conference of the
Society for College and University Planning:
Atlanta, Georgia; August 8, 1972.

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I appreciate this opportunity to talk to you about Roosevelt University and what it has done to solve the problem of providing a campus in an urban center. This is a case study which I hope you will find of interest because it combines an innovative educational program with a building of historic and national significance.

Roosevelt University was founded in 1945--27 years ago--as an affirmation of democratic education. Although it was thought radical at the time, Roosevelt University welcomed minority students from Chicago's inner city and over the years has been one of the few universities in the United States in which minority students happen to enroll in approximately their proportion in the larger society.

Also ahead of its time was its implementation of democratic participation in governance. The faculty elect seven members of the Board of Trustees from amongst their own number. Faculty government, concomitantly, has representatives from the student body. Other innovations include votes of confidence for the president and the deans, and a faculty-elected Budget Committee which works with the administration in the formulation of the annual budget.

But above all, Roosevelt University is dedicated to serving the higher educational needs of the city. This means providing a convenient location accessible to students from all parts of the Chicago metropolitan area, providing instruction at the most economical tuition rates consistent with quality education, scheduling courses at hours that students employed or with family responsibilities find convenient, and offering curricula relevant to the problems of an urban clientele. No stigma is attached to being a part-time student, and courses in the evening are taught by the same faculty who teach during the day.

Given its mission and its concern for accessibility, it has been important for Roosevelt to have a downtown location. After an initial year in a loft building on the west side of Chicago's Loop, Roosevelt purchased the then vacant Auditorium Building. It took a year to renovate the building so that it would be suitable for the institution's needs and conform to city code, and to schedule the move to the new location. Since 1947, Roosevelt University has occupied the Auditorium Building which has become an integral part of the University's image to the world.

The history of the building predates that of the University by almost 60 years. Designed by architects Dankmar Adler and Louis Sullivan and completed in 1889, the Auditorium Building, which is familiar to every student of architectural history, is located on Michigan Avenue and Congress Parkway in Chicago: overlooking Grant Park, Buckingham Fountain, and the lake front. The Auditorium Building is included in the Historic American Buildings Survey and the National Register of Historic Places. It was declared a landmark by one commission of the Chicago City Council and is a candidate for that designation by another. Edgar Kaufmann has called it "an American masterwork."

It is an innovative and unusual building in many respects. It was one of the first buildings to combine several functions in a single structure. A large theater (seating over 4,000) was enveloped on two sides by a hotel and on the third by commercial office space. The ten-story building was surmounted by a tower, rising over one portion, that was the tallest point in Chicago at the time of its construction with some of the choicest office space in the city. Adler and Sullivan made their own offices in the tower for a period of about 20 years after its completion. Even before the building was completed, it housed the Republican National Convention of 1888. As an indication of the importance held for this building throughout the country, President Benjamin Harrison and Vice President Levi Morton returned for the dedication: the first time in history that both the President and the Vice President were away from the Capitol at the same time while Congress was in session.

A full block deep, a half-block wide, and covering 63,500 square feet of ground area, the Auditorium Building is one of the earliest of the tall commercial structures of the so-called "Chicago School of Architecture" and is recognized as having pioneered many of the concepts of modern architecture. It is an engineering masterpiece that made use of all of the techniques at the disposal of one of the greatest architect-engineers of the 19th Century. An early form of air conditioning was used in the theater: air blown over cakes of ice in a chilling room before being re-circulated. The Auditorium was the first major building in Chicago to be wired for electric lights at the time of construction; and the building was designed with a complex system of truss-arches, vaults, bridges, and an assortment of hydraulic machinery. Predating the development of the caisson foundation (which was invented by Adler for the Chicago Stock Exchange Building in 1893), the Auditorium Building is supported on a floating foundation of heavy timbers, crossed steel rails, and iron beams. In a recent exploratory excavation this foundation was found to be in excellent condition. The building has been settling gradually into the Chicago soil at the rate that Adler predicted. The compacting of the soil is almost complete and the rate of settlement has decreased to negligibility.

One of the ingenious engineering solutions developed by Adler was the result of the baffling problem of how to allow for settlement in the area

under the tower which would, because of its weight, settle more rapidly than the rest of the building. Adler designed the foundations under the tower to support 7,000 tons more than the adjacent wall foundations. The problem was that if the walls under the tower were built up along with the adjacent walls, the weight would be insufficient to compress the foundations at that point, the adjacent walls would settle more than the walls of the tower, and the masonery would crack. Adler's solution was to load the tower foundations concurrently with the other foundations in proportion to their ultimate load so that the settlement would be even throughout. He did this by adding vast quantities of pig iron and brick to the basement and lower stories, increasing the artificial load gradually as the height of the walls under the tower approached the tenth story, always maintaining a constant mathematical equation between the relative weight of the adjacent wall to its foundation capacity. The settlement proceeded absolutely uniformly. After reaching the tenth story, the pig iron and bricks were gradually removed as the tower grew to its full height and weight: 95 feet above the adjacent walls. When the artificial load was gone, the total weight was the same as it had been at the tenth story.

But the Auditorium was an aesthetic as well as an engineering masterpiece. In an era of opulent and ornate buildings, the Auditorium Building was thought exceptional. It contains a wealth of Sullivan's intricate floral designs executed in stained glass, mosaic, plaster relief, wrought iron, and carved wood. In the public areas of the building there was generous use of gold-leaf, onyx, marble, and such hardwoods as mahogany, oak and maple.

Although one of Chicago's most elegant buildings for several decades, the Auditorium, both the theater and the hotel, fell on hard times during the 1930's. In 1940 the hotel was bankrupt and the theater closed. The building was taken over by the city for use as a servicemen's center. As might be expected, the GI's gave it hard use which added to the neglect of the previous decade creating considerable damage. Ornamental plaster and gold leaf were covered in olive drab. Stained glass windows were painted black both for possible air raids and so that the officers' billets would not be disturbed by the morning sun. And the theater was converted into a bowling alley by removing the parquet section of seats.

When Roosevelt University purchased the building in 1946 it was shabby and frayed, but structurally sound as when constructed. The massive granite walls and the interior supports of cast iron had been built to last. Roosevelt University had had previous experience in converting old buildings into college facilities. The first issue of College and University Business, in July 1946, contains a story of the remodeling of Roosevelt's first building, an office structure, into college classrooms. However, the Auditorium Building lent itself to such conversion ideally. The hotel rooms were easily turned into classrooms and, by removing a modular wall or two, into laboratories. The problem of dissipating laboratory exhausts was solved by using the chimney flues that had serviced the individual fireplaces existing in many

of the rooms. The banquet hall, on the top floor of the hotel overlooking Grant Park, was converted into a large library reading room. The leaking skylights were replaced and shelves were installed around the perimeter of the room for the reference collection. The library stacks are located in the area which formerly contained the kitchens and utility equipment. Lounges and other public spaces in the hotel became student lounges and public spaces for the University. The principle modifications necessary to meet city code were to upgrade the electrical wiring and enclose the entrances to stairwells. These changes and the other modest renovations were undertaken at very low cost by a university with almost no endowment and dependent in large measure on student tuition for its annual budget. Thus the Auditorium Building entered a new phase in its history, that of being the home of Roosevelt University.

Still there were several areas of the building which were beyond the University's power to repair and reclaim at that time. The largest of these was the Auditorium Theatre. Although the University did attempt to use the theater for an early commencement, the facility was too far gone to continue in operation. Leaks had developed in the roof and the deterioration caused by time, neglect, and GI Joes combined to make the theater unusable. There was considerable controversy during the 1950's as to whether or not the theater could be restored--what the cost would be if it were possible to restore--and whether or not the University should undertake the restoration. In February 1960, a decision was made by the Roosevelt University Board of Trustees to create an Auditorium Theatre Council as its agency to undertake this restoration. The Auditorium Theatre Council, under the chairmanship of University trustee Beatrice Spachner, successfully raised $3 million to restore the theater. The restoration was supervised by architect Harry Weese, for which he was given an AIA award, and was completed in 1967 at which time the theater was reopened amidst almost as much splendor as was connected with the original.

Although the Auditorium Building, with approximately 200,000 assignable square feet exclusive of the theater, was ample for the University's needs for the first two decades of its history, by 1965 enrollment had grown to the point where the building was overcrowded. It was being used by over 6,500 students taking classes from 8 in the morning until 10 at night during the week and all day on Saturday. The University needed more classrooms, more faculty offices, more and better laboratories, an expansion of its library facilities, and air conditioned space in which to conduct its summer school. The University also needed to improve the space for student activities, to provide more attractive dining facilities, and to create a student residence center. This last need was one arrived at as a result of a great deal of careful planning and consideration. Roosevelt University had been and continues to be primarily a commuter institution. Its students live at home and travel to the University by any one of a number of public transportation modes, all of which pass within a very short distance of the University.

Or they drive to the University on one of the several expressways radiating from the center of the city and park in the large municipal underground lot or in one of the private parking garages. It was determined, however, that the University would benefit from having a student union and residence. It would permit a nucleus of full-time residential students to develop. It would accommodate the many international students who heretofore had to find their own housing accommodations. There were students who wished to live away from home, but who preferred living and attending a university in the city. And housing was needed for students, particularly in the University's Chicago Musical College, who were attracted from a wide radius outside of the metropolitan area.

As a consequence of these various needs, two building programs were undertaken. One was a dormitory and student union facility constructed adjacent to the Auditorium Building on Wabash Avenue. Known as the Herman Crown Center, this facility houses 360 students. Crown Center, designed by the firm of Mittlebusher and Turtelot and constructed at a cost of $6 million, has a total of about 100,000 gross square feet and is connected with the main building at the basement and first three floor levels. It is one of a very few dormitories in the country located in urban centers. Students resident in this facility not only have access to the University and the Auditorium Theatre, but are within easy walking distance of Orchestra Hall, the Art Institute, the Public Library, and other cultural facilities as well as job opportunities in Chicago's commercial center. Grant Park, across the street from the University, provides a natural recreation area.

The problem of providing additional and improved academic facilities was solved by a plan which makes use of hitherto neglected space within the building and by creating what the architect, Marion Gutnayer, refers to as a "hidden skyscraper": built in an inner court inside of the Auditorium Building. The first part of this academic facilities project involved the renovation and restoration of the tower which had gone unused for over 30 years. At the time the renovation was started, it was an unheated pigeon loft. Built as a seven-story tower, one floor had a 19-foot ceiling and contained the hydraulic tanks which were used to operate machinery throughout the building including all the elevators and the stage apparatus. In a rather intricate maneuver which involved threading steel beams through one-foot windows 15 stories off Congress Expressway, it was possible to subdivide this floor and create a new deck which is used to house all of the air-conditioning and heating equipment for the tower without any loss of floor space. Because access to the tower is restricted by the narrow original stairwell and the relatively small elevator capacity, it was determined to use the tower for faculty offices rather than for any of the classroom needs. The remodeling has created approximately 65 faculty offices in the tower and the suite of architects Sullivan and Adler has been partially restored. The tower now houses the English and Psychology Departments, the Walter E. Heller College of Business Administration, and the University's Labor Education Division.

The problem of providing more space for the library was solved by renovating what had formerly been service quarters for the hotel's domestic staff. This space was subdivided into modules for acquisitions, cataloging, and audio-visual. The space vacated by these functions was used to expand the library stacks.

Perhaps the most unusual part of this project, however, involved bridging across what was formerly a light-and-air court within the center of the Auditorium Building. Careful architectural and engineering analysis determined that the foundations were adequate to support this new structure and that the bearing walls on three sides of the court were capable of sustaining the weight of the new floors. By bridging this court approximately 2,500 additional square feet of net assignable space was added for each of ten floors. At the same time it was possible to bring in air-conditioning to cool the Michigan Avenue Wing of the building and to upgrade that area in other ways. The primary air-conditioning ducts were designed to fit into the former chimney stack of the building, the heat now being supplied from Crown Center. This design also saved floor space which would otherwise have been taken out of assignable area. Every square foot was taken advantage of in the most economical method. Even window bays were saved to become closets and storage cupboards.

As part of this construction project, the University is also devoting attention to a partial restoration of the main lobby of the Auditorium Building--the principal entrance to the University. An ornately elegant room 94 feet long and 44 feet deep with a 23-foot expanse from floor to ceiling, it has a six-foot dado of Mexican onyx and elaborate plaster ornament along the ceiling bays in which Sullivan's intricate designs were cast in three dimensions and gilded. Sullivan ornament also appeared on stencils applied to the ceiling and to the underside of the beams separating each of the bays as well as in a mosaic tile floor constructed of marble tesserae. In the center of the lobby are six scagliola columns which add to the feeling of height in the room and which conceal the utilities which were carried through them to the upper floors of the hotel.

Over the years a number of utilitarian but aesthetically unfortunate changes were made in this lobby. In the 1930's the marble floor--by then cracked and worn despite having been patched and repaired many times--was covered with rubber tile. The lighting which was originally rosettes of bulbs clustered in the center of plaster ornament, in the ceiling and along the upper walls, was replaced with plaster chandeliers in the early years of this century. Later these were replaced with flourescent fixtures. The room was subdivided by the University to create first a bookstore and later a "temporary" classroom. Other changes over the years included many layers of paint over the gilded plaster, concealing the stenciled ornament, blanketing the rich oak trim. The wrought iron elevator panels were taken out as were certain pieces of onyx.

The lobby presented a difficult problem. It was in shabby condition and obviously needed to be improved. The University recognizes its priceless heritage in this outstanding example of Adler and Sullivan's architecture. But a university is not a museum. It is necessary to create an attractive but functional lobby with adequate illumination, designed to meet the needs of a university into which upwards of 7,000 people enter in the course of a week. There were those who urged faithful restoration of the original; others favored strictly functional and economic solutions which would have meant abandoning the original altogether.

In order to get help in solving this problem, an architectural advisory committee was appointed: a committee sensitive to preserving what is unique and valuable, knowledgeable about the problems and techniques of restoration, and gratifyingly aware of the academic needs and financial limitations of the University.

This restoration project is still underway, but already the dividing partition has been taken out restoring the room to its original size; the rubber tile has been removed, revealing the original mosaic floor; paint was stripped from the ceiling and the original designs uncovered. A compromise solution has been reached on the flooring and on the lights. The marble tesserae is in too poor condition to leave without repairing, but the cost of repairing the entire floor is prohibitive. Although a new terrazzo floor would be more practical, it would destroy the mosaic. It was agreed to repair portions of the tile, where the design is most interesting. The remainder will be carpeted, over building paper, so as to preserve the tesserae beneath. New lighting, both direct and indirect, will be from luminaires suspended from the center of each of the ceiling bays. The original stencil patterns will be re-applied to the ceiling and to the beams, and the oak woodwork stripped.

In undertaking and completing this program of physical plant expansion and improvement, Roosevelt University has wrestled with and solved two difficult planning problems. The first of these problems is how a university in a land-locked urban center can create the new facilities needed for an expanding enrollment and an evolving academic program. This was solved by a combination of new building and renovation. The new construction included both a free standing building and a plug-in building. In terms of cost effectiveness, however, it is clear that the plug-in building and renovation is much more economical than free-standing new construction. The total cost of the student union-dormitory was approximately $60 per square foot. The cost for the academic facilities project, involving nearly 30,000 square feet of new construction and 100,000 square feet of renovation and remodeling, was less than $30 per square foot. Both figures reflect the difficult problems of construction logistics on a constricted site in downtown Chicago. By careful scheduling of classes and construction, the remodeling and renovation was completed while the University maintained its academic calendar and full enrollment.

The second major problem of significance to an association of architects and planners is how to preserve an architectural landmark. This was made possible by its conversion into an academic building serving a contemporary purpose. Several times in the 1930's and 40's the Auditorium Building narrowly escaped demolition. Its purchase by Roosevelt University saved it from this end. Some would see a great building such as this one re-created more as a museum than as a living structure--faithful to the original without regard for contemporary function. Such suggestions have sometimes come from historians who have not recognized the costs of restoration and who would have the university burdened with what is really a responsibility of the whole community. A university must always put academic program ahead of architecture, and these days there is often not enough money for both. Similarly there are governmental agencies which, in their administration of well-intentioned preservation programs, are equally unappreciative of the architectural facts-of-life. In its administration of the national historic preservation program, the National Park Service is requiring the recipients of its modest grant awards to sign a maintenance and preservation covenant attaching to the title and running with the land. Well intentioned though this policy may be, it may work against preservation, since such a covenant can be an obstacle to the obtainment by a private owner of a property mortgage, or even a government construction loan or grant. A mortgage might raise many times the dollars available from the federal agency and could be used to finance various capital improvements. Often a mortgage is the most realistic and feasible means for a private institution to develop construction funds. This source of funds would also be jeopardized by any governmental designation as "landmark" which would limit the value of a building in the eyes of a commercial lending agency.

No historic preservation program will be successful unless it recognizes these two considerations: that a building must have (or be given) a viable contemporary function in order to be worth preserving, and that landmark designation must carry with it the funds necessary to undertake restoration and maintenance or, at a minimum, must not be an obstacle to other sorts of funding (such as, for example, a property mortgage).

Although Roosevelt University and the Auditorium Building are unique in many ways, I hope that this discussion of the problems of physical planning, construction, and preservation which have been met and successfully solved by one institution are of interest and of help to others who may perhaps have similar problems.